REMARKS

Claims 7-38 were previously pending. Claim 38 has been cancelled by this Amendment. Upon entry of the Amendment, claims 7-37 will be pending.

Claims 7 and 17 have been converted from product claims to product-by-process claims. The descriptive support for the amendments to claims 7 and 17 can be found in the specification at least in page 5, lines 6-15.

The product-by-process claim 25 has been amended editorially without any narrowing of the scope of the claim.

Rule 132 Declaration Filed October 26, 2010

With the RCE filed, applicants request that the Examiner enter the Declaration under 37 C.F.R. §1.132, signed by Kenji Shiga on October 21, 2010 and filed on October 26, 2010 (hereinafter referred to as "the first declaration") into the official file of the patent application.

Claim Rejections -- 35 U.S.C. §102/103

Applicants respectfully traverse the rejection of claim 38 under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over Akira (JP 2003-238777). Claim 38 has been cancelled, rendering this rejection moot. Withdrawal of the rejection is respectfully requested.

Claim Rejections -- 35 U.S.C. §103

I. Applicants respectfully traverse the rejections of claims 17-21 and 23-29 under 35 U.S.C. §103(a) as being obvious over Shiga et al. (US 2004/0010073; US 7,084,214).

Shiga fails to teach or suggest that a modifier for a polyester resin, wherein the modifier is a mixture of an amorphous polyester resin (I) and a reactive compound (II), wherein a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound (II) is reacted with the amorphous polyester resin (I) as recited in claim 17, and then the modifier is mixed with a crystalline polyester resin (IV). As discussed below and shown in the Declaration under 37 C.F.R. §1.132, signed by Kenji Shiga on October 21, 2010 and filed on October 26, 2010 (hereinafter referred to as "the first declaration"), the polyester resin composition prepared by reacting first an amorphous polyester resin with a reactive compound to obtain a modifier and

then mixing the modifier with an amorphous or crystalline polyester resin achieved **unexpected results** over the polyester resin prepared by directly mixing the amorphous polyester resin, the reactive compound and the amorphous or crystalline polyester resin together. Therefore, claims 17-21 and 23-29 would not have been obvious over Shiga.

The Advisory Action states that the first Declaration "cannot be relied upon to establish non-obviousness" because the Advisory Action asserts that "the results presented in the Declaration are not commensurate in scope of the claims". Without acquiescence with the alleged prima facie obviousness of the claimed invention over Avramova in view of Akira, applicants submit that the unexpected results presented in the first Declaration can be relied upon to overcome any prima facie obviousness alleged by the Office Action. The Advisory Action does not put forth any scientific reasons or evidence of why similar unexpected results could not be achieved with other amorphous polyester resin (I), other reactive compound (II), other amorphous polyester resin (III) or other crystalline polyester resin (IV) than the amorphous polyester resins (I), reactive compounds (II), amorphous polyester resins (III) or crystalline polyester resins (IV) shown in the specification and the first Declaration. Without any scientific reasons or evidence put forth by the Advisory Action, applicants contend that the U.S. Patent Office should not take a position that the unexpected results shown in the first Declaration "cannot be relied upon to establish non-obviousness".

The Advisory Action also states that: "While the declaration asserts that only a portion of functional groups on the reactive compound were reacted with the amorphous polyester, this is not supported by any sort of data, characterization, etc." Applicants hereby submit a second Declaration under 37 C.F.R. 1.132 which shows that, in the reactions conducted in the tests presented in the first Declaration, only a portion of the glycidyl groups of reactive compound (II) was reacted with the carboxyl groups of amorphous polyester resin (I). Thus, applicants have submitted experimental evidence that only a portion of the functional groups on the reactive compound were reacted with the amorphous polyester.

The Advisory Action also states that the data presented in the first Declaration "is not specific enough to allow one of ordinary skill in the art to determine the significance of the results." Applicants respectfully disagree. One of ordinary skill in the art is able to determine that the results shown in the first Declaration are significant. The Advisory Action uses the presentation of the test results on surface smoothness as an example of why the Examiner

considered the test results are not specific enough to allow one of ordinary skill in the art to determine the significance of the results. The Examiner took a position that a circle could represent 0.999 μm and a triangle could represent 100 μm with a difference of only 0.001 μm, while the Table in the first Declaration "would give the appearance that the difference in the two was quite significant." Applicants do not understand the reasoning of the Examiner in this regard. First, based on the numbers chosen by the Examiner, the difference is not only 0.001 μm. Second, more importantly, Examples 1, 14 and 18 had <100μm, while Samples A, B and C had > or = to 200μm, which is clearly significantly different.

Applicants points out that, if the results are looked at from the perspective of one of ordinary skill in the art, the results presented in the specification and the first Declaration clearly show unexpected results. For instance, with the impact resistance test for injection molding, Examples 1, 14 and 18 were 40 J/m or higher, while Samples A, B and C were less than 25 J/m, which is clearly significantly different. With injection molding, Examples 1, 14 and 18 were extremely transparent, while Samples A, B and C had inferior transparency, which is clearly significantly different.

For profile molding, in terms of sizing die processing, Examples 1, 14 and 18 showed that the resin did not adhere in the sizing die and processability was smooth, while Samples A, B and C showed that the resin adhered in the sizing die and processability was worse in the sizing step, which is clearly significantly different. In terms of product dimensional precision in profile molding, Examples 1 and 14 showed the same as designed value, while Samples A and B showed a slippage of 0.3 mm or more from a designed value, which is clearly significantly different. Furthermore, in profile molding, product warpage was absent in Examples 1, 14 and 18 and present in Samples A, B and C, which is clearly significantly different.

For direct blow molding, Examples 1, 14 and 18 retained the shape, while in Samples A, B and C the shape was ruptured, which is clearly significantly different. In terms of product precision, Examples 1, 14 and 18 achieved uniform wall thickness, while Samples A, B and C had not uniform wall thickness, which is clearly significantly different. Examples 1, 14 and 18 had extremely transparency, while Samples A, B and C had inferior transparency, which is clearly significantly different.

For calendar processing molding, in terms of sheet peelability, Samples A, B and C had strong sticky property and were difficult to peel, while Examples 1, 14 and 18 had better

peelability, which is clearly significantly different. In terms of sheet pulling property, Examples 1, 14 and 18 showed no sagging, while Samples A, B and C sagged by its own weight, which is clearly significantly different. In addition, Examples 1, 14 and 18 were extremely transparent, while Samples A, B and C showed inferior transparency, which is clearly significantly different.

At least based on the significant differences shown in the first Declaration which were unexpected, withdrawal of the rejections is respectfully requested.

II. Applicants respectfully traverse the obviousness rejections of claims 7-11, 13-15, 25-29, and 31-33 over Avramova et al. (US 4,915,885) in view of Akira.

Present claims 7 and 25 recite two amorphous polyester resins: an amorphous polyester resin (I) and an amorphous polyester resin (III). In the invention of claims 7 and 25, the amorphous polyester resin (I) and the amorphous polyester resin (III) are not only mixed together, but they also have different effects. Specifically, the amorphous polyester resin (I) is a component of the modifier and is first reacted with the reactive compound (II) to obtain a modifier wherein only a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound (II) is reacted with the amorphous polyester resin (I). On the other hand, the amorphous polyester resin (III) is a component that is modified by the modifier.

Avramova in view of Akiva fails to teach or suggest the relation or the difference in their effects between the amorphous polyester resin (I) and the amorphous polyester resin (III), as recited in present claims 7 and 25. Avramova differs from claims 7 and 25 at least in does not teaching or suggesting providing a mixture of an amorphous polyester resin (I) and a reactive compound, wherein only a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound (II) is reacted with the amorphous polyester resin (I), and then mixing the mixture, i.e., a modifier, with an amorphous polyester resin (III) and/or a crystalline polyester resin (IV). Akiva fails to cure this deficiency of Avramova because Akiva is silent in providing a mixture of an amorphous polyester resin (I) and a reactive compound, wherein only a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound (II) is reacted with the amorphous polyester resin (I), and then mixing the mixture, i.e., a modifier, with an amorphous polyester resin (III) and/or a crystalline polyester resin (IV).

As the Office Action acknowledges (page 7, paragraph 18), Avramova does not teach a reactive compound (II) containing two or more glycidyl groups and/or isocyanate groups per

molecule and having a weight average molecular weight of not less than 200 and not more than 500 thousands, as recited in present claims 7 and 25. Akira does not teach or suggest a composition comprising or a process using both a first amorphous compound (I) and a second amorphous compound (III). *See, e.g.*, Examples 1-8 of Akira. Avramova in view of Akira fails to teach or suggest reacting a first amorphous polyester resin with a portion of two or more glycidyl groups and/or isocyanate groups of a reactive compound to obtain a modifier for polyester resin, and then mixing the modifier with a second polyester resin. Applicants note that according to its ordinary use, "a portion" does not include 100%.

The Office Action (page 15, paragraph 50) states that "selection of any order of mixing ingredients is *prima facie* obvious, as is selection of any order of performing process steps in the absence of new or unexpected results." Applicants note that reacting a first amorphous polyester resin with a portion of two or more glycidyl groups and/or isocyanate groups of a reactive compound to obtain a modifier and thereafter mixing the modifier with a second amorphous polyester resin or a crystalline polyester resin, as recited in claims 7 and 25, achieves superior unexpected results such as inhibition of gelation, improved moldability, and improved mechanical properties while maintaining transparency, compared with directly mixing the first amorphous polyester resin, the reactive compound, and the second amorphous polyester resin or the crystalline polyester resin. The unexpected results are described on page 5, lines 6-15 and page 14, line 24 to page 15, line 11 of the specification and supported by the first Declaration submitted on October 26, 2010. In the experiment shown in the first Declaration, Sample A and Example 1 were identical in composition, containing a first Amorphous Polyester Resin A, a Reactive Compound I, and a second Amorphous Polyester Resin B; Sample B and Example 14 were identical in composition, containing a first Amorphous Polyester Resin B; Reactive Compound J, and Polyethylene terephthalate (PET) as the Crystalline Polyester Resin; Sample C and Example 18 were identical in composition, containing a first Amorphous Polyester Resin E; Reactive Compound I; and Polybutylene naphthalate (PBN) (70% by weight) as the Crystalline Polyester Resin. *See* the first Declaration at page 2. As shown in Table 1 of the first Declaration, unexpected results, including inhibition of gelation and improved molding properties, were achieved in Examples 1, 14, and 18 by first reacting the first Amorphous Polyester Resin with the Reactive Compound in order to react a portion of two or more glycidyl groups and/or isocyanate groups of the Reactive Compound with the first Amorphous Polyester Resin to

prepare a modifier for a polyester resin and then melt molding the modifier and the second Amorphous Polyester Resin or the Crystalline Polyester Resin, compared with Samples A, B, and C prepared by directly dry-blending the first Amorphous Polyester Resin, the Reactive Compound, and the second Amorphous Polyester Resin or the Crystalline Polyester Resin to prepare a mixture thereof, without preparing a modifier for a polyester resin, and melt molding the mixture. Applicants note that inferior molding properties were observed if gelation occurred. Although Table 1 does not contain an item that indicates occurrence of gelation directly, the inferior molding properties as shown in Table 1 for Samples A, B, and C indicated that gelation occurred.

In sum, Avramova in view of Akira fails to teach or suggest reacting a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound with a first amorphous polyester resin to obtain a modifier and thereafter mixing the modifier with a second amorphous polyester resin or a crystalline polyester resin, as recited in claims 7 and 25. Also, the claimed invention achieved superior unexpected results as shown in the first Declaration. Therefore, the claimed invention would not have been obvious over Avramova in view of Akira. Withdrawal of the rejections is respectfully requested.

III. Applicants respectfully traverse the obviousness rejections of claims 12, 16, 30, and 34, over Avramova et al. (US 4,915,885) in view of Akira as applied to claims 7 and 25, further in view of Borman (US 3,953,404).

As discussed above, Avramova in view of Akira fails to disclose the polyester resin composition of claim 7 or the process for producing a molded article of claim 25, wherein a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound (II) is reacted with the amorphous polyester resin (I) to obtain a modifier. This deficiency is not cured by Borman, which merely discloses a branched copolyester containing a polyfunctional branching component (col. 3, lines 25-28). Borman fails to teach or suggest a polyester resin composition or a process wherein an amorphous polyester resin is first reacted with a portion of the two or more glycidyl groups and/or isocyanate groups of the reactive compound to obtain a modifier. The claimed invention would not have obvious over the cited references. Withdrawal of the rejections is respectfully requested.

IV. Applicants respectfully traverse the obviousness rejection of claim 22 over Shiga as applied to claim 17, and further in view of Borman.

As discussed above, the alleged prima facie obviousness of claim 17 over Shiga is overcome at least with the unexpected results shown in the first Declaration. Even considering the disclosures of Borman, the results shown in the first Declaration are still unexpected. Claim 22 would not have been obvious over Shiga in view of Borman. Withdrawal of the rejection is respectfully requested.

CONCLUSION

The Examiner is encouraged to contact the undersigned regarding any questions concerning this amendment. In the event that the filing of this paper is deemed not timely, applicants petition for an appropriate extension of time. The Commissioner is authorized to debit Deposit Account No. 11-0600 the petition fee and any other fees that may be required in relation to this paper.

Respectfully submitted,
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Enclosure: Second Declaration under 37 C.F.R. §1.132